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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,223	09/20/2001	Todd Barrett	1092-PA428	5857

7590 12/08/2003

EASTMAN & ASSOCIATES  
Suite 306  
520 West Ash Street  
San Diego, CA 92101

EXAMINER

KANG, JULIANA K

ART UNIT PAPER NUMBER

2874

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Dr

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<b>Office Action Summary</b>	<b>Application No.</b> 09/960,223	<b>Applicant(s)</b> BARRETT, TODD	
	<b>Examiner</b> Juliana K. Kang	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-33 is/are allowed.
- 6) ☒ Claim(s) 34-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: .  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The reference sign 144 is mentioned in page 17 line 18 Fig. 2 does not show the reference sign 144.
2. The reference signs 303 and 322 mentioned in the specification page 21 line 1 are not shown in Fig. 4.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "310" in Fig. 5 has both been used to designate both the lenslet for the communication beam and the lenslet for the alignment beam. According to the specification in page 21 line 6, the lenslet for the alignment beam should be corrected to "312."
4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al (US 2002/0054422A1).

Carr et al teach a cross connect system comprising input fibers, output fibers, appropriate imaging lenses and MEMS mirrors as shown in Fig. 1(b) is known in the art. Carr et al further teach that the input fibers and output fibers can be in separate arrays [0007]. Carr et al's invention is the improved MEMS device. Carr et al teaches that the invention is useful for various systems including variable attenuators and switches (as shown in Fig. 1(b)) [0080]. Carr et al shows a variable attenuator (120) wherein the controllable mirror is positioned for receiving signal and is oriented for reflecting the signal so that only a portion of the reflected signal enters the output fiber [0080]. Thus, positioning of Carr et al's MEMS has to be based on known relative locations of the input and output fibers. However, Carr et al do not explicitly teach that the imaging lenses are collimators. Using collimators in the optical switching art is well known in order to reduce the insertion loss. Collimators are known to collimate the light in one direction and focus the light in the other direction. Thus, it would have been obvious to one with ordinary skill in the art to recognize the use of collimators in place of Carr et al's appropriate imaging lenses for better coupling efficiency.

7. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al, and further in view of Street et al (U.S. Patent 6,549,691 B1).

As described above, Carr et al teach the claimed methods however, an additional MEMS device is not taught by Carr et al. Street et al teach a cross switching configuration using two MEMS devices for improved efficiencies. Thus, it would have

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been obvious to use two MEMS devices in Carr et al as taught by Street et al in order to improve efficiencies of the optical cross connect system.

### ***Allowable Subject Matter***

8. Claims 1-33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: there is no prior art that teaches or reasonably suggests the claimed method for attenuating an optical beam comprising all the specific methods including generating an alignment beam whose location is provided by a sensor and positioning a communication beam using an offset from the location of the alignment beam as set forth in claims 1 and 25.

### ***Conclusion***

9. The prior art documents submitted by applicant have been considered and made of record (note the attached copy of form PTO-1449).

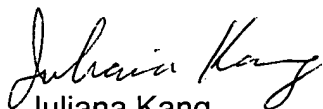
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laor (U.S. Patent 5,177,348) teaches using alignment signals to adjust relative positions of the optical fibers however, Laor does not teach the sensor that provides the location of the alignment beam.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (703) 305-6259. The examiner can normally be reached on Mondays and Thursdays 7:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-3072.

A handwritten signature in cursive script, appearing to read "Juliana Kang".

Juliana Kang  
December 4, 2003